



Webex Agenda, 20 March 2014




1. Access to Science Team Meeting Presentations
2. Update on Colorado logistics and schedule
3. AGU Session Proposals and AAAR participation

17 Posters have been received and added to the website.

Presentations can be accessed from links on the main site and the data archive or directly at the following url:

<https://www-air.larc.nasa.gov/cgi-bin/DocView/DAQScienceMtgLaRC>



The screenshot shows the NASA DISCOVER-AQ website. At the top is the NASA logo and the text "NATIONAL AERONAUTICS AND SPACE ADMINISTRATION". Below this is a banner image of Earth from space with the text "Airborne Science Data for Atmospheric Composition". A navigation bar contains links: Home, Tools, Missions, Data, and Contact Us. A login box is present with the text "Login here to view documents", "User ID :", "Password :", and a "Login" button. Below the navigation bar, the text reads "DISCOVER-AQ Science Team Meeting 24-28 February 2014 H.J.E. Reid Conference Center, NASA Langley Research Center". At the bottom, it says "Monday (24 Feb) - Maryland" followed by a table header with columns "Time", "Presenter", and "Title".

The User ID is:

discoveraq

The password has been emailed separately.



FRAPPÉ Science Team Meeting



The FRAPPÉ Science Team will be held in Boulder on 3-4 April.

We will not be travelling DISCOVER-AQ personnel to this meeting, but locals may wish to attend. Jim Crawford and Ken Pickering will also attend.

Remote access through webex will be provided for those who are interested. Instructions will be emailed to the DISCOVER-AQ mailing list.

FRAPPÉ /DISCOVER-AQ Media Day

The media day has been **rescheduled for 15 July**. This is the day after the transit of the NASA aircraft and the day before the first science flight. **(Note: this means that the transit day has been shifted to one day later)**

This worked well in Houston and will give the public a heads up before science flights begin.

DISCOVER-AQ

Today



June 2014 ▼



Week

Month

Agenda ▼

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Jun 1	2	3	4	5	6	7
8	9	10	11	12	13	14
	Herndon, Gatebe, Vanderlei Upload					
	Anderson (LARGE), NSERC, Cohen Upload				Wisthaler, Fried, Yang, Barrick Upload	
15	16	17	18	19	20	21
	Herndon, Gatebe, Vanderlei Upload					
	Wisthaler, Fried, Yang, Barrick Upload			Weinheimer, Diskin Upload		
	Anderson (CAPS) Upload					
22	23	24	25	26	27	28
	Herndon, Gatebe, Vanderlei Upload		P3B FIIR	P3B FRR	P3B ATP	
	Weinheimer, Diskin Upload					
29	30	Jul 1	2	3	4	5
	P3B ECF	P3B PCF and pack days				



Today ◀ ▶ July 2014 ▼

 Print
 Week
 Month
 Agenda

Sun	Mon	Tue	Wed	Thu	Fri	Sat
29	30	Jul 1	2	3	4	5
	P3B ECF	P3B PCF and pack days				
6	7	8	9	10	11	12
				P3B MRR		
13	14	15	16	17	18	19
	30 day deployment window					
	Transit to CO	Media Day	1st potential scienc			
20	21	22	23	24	25	26
30 day deployment window						
27	28	29	30	31	Aug 1	2
30 day deployment window						

DISCOVER-AQ

Today



August 2014 ▼



Week

Month

Agenda



Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	Aug 1	2
30 day deployment window						
3	4	5	6	7	8	9
30 day deployment window						
10	11	12	13	14	15	16
30 day deployment window						
		Transit home				

Additional instructions for integration

The schedule reflects when racks will be uploaded (i.e. aircrew support). You are more than welcome to come early and work on your rack in the lab or stay and work on your rack once it is uploaded.

All windows will be installed in the first few days (before the racks block the windows). All windows should be at WFF 1 week prior to the start of integration.

If we get ahead of schedule, racks may be uploaded earlier than scheduled. If you want to be present for the upload of your rack, plan to arrive a few days early or make special arrangements with Martin (i.e. rack brought on plane but not bolted down).

Current status of download

Download of some instruments in Colorado (specifically, Weinheimer, Fried, and Cohen) will likely be feasible. Martin Nowicki is working out the details. Weinheimer will be easy, but Cohen and Fried will have to squeeze through some tight spots.

Hotel

Integration – Plan to have dorm room at Wallops – we will confirm availability

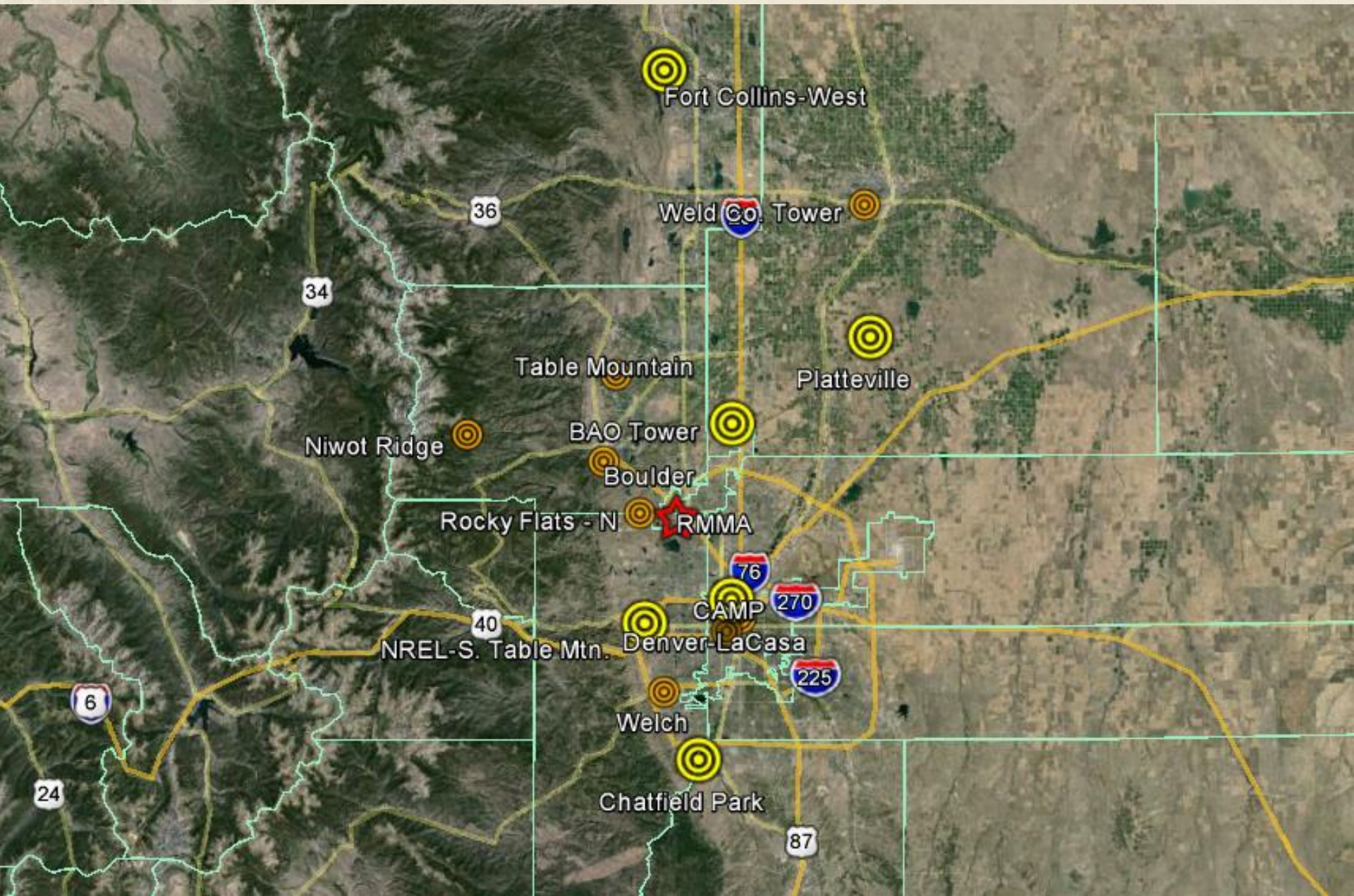
Deployment – TownePlace Suites 480 Flatiron Blvd Broomfield, CO, email to follow when room block is ready for reservations.

De-integration – Dorm rooms at Wallops (5 already reserved 13-17 August)

Science Teams Participants: Look for email from Mary Kleb requesting team member names, nationality, planned dates and locations in the field, amount and type of consumables required, transit manifest for P-3B, team members expected to fly on science flights (for updating medical and access permissions)

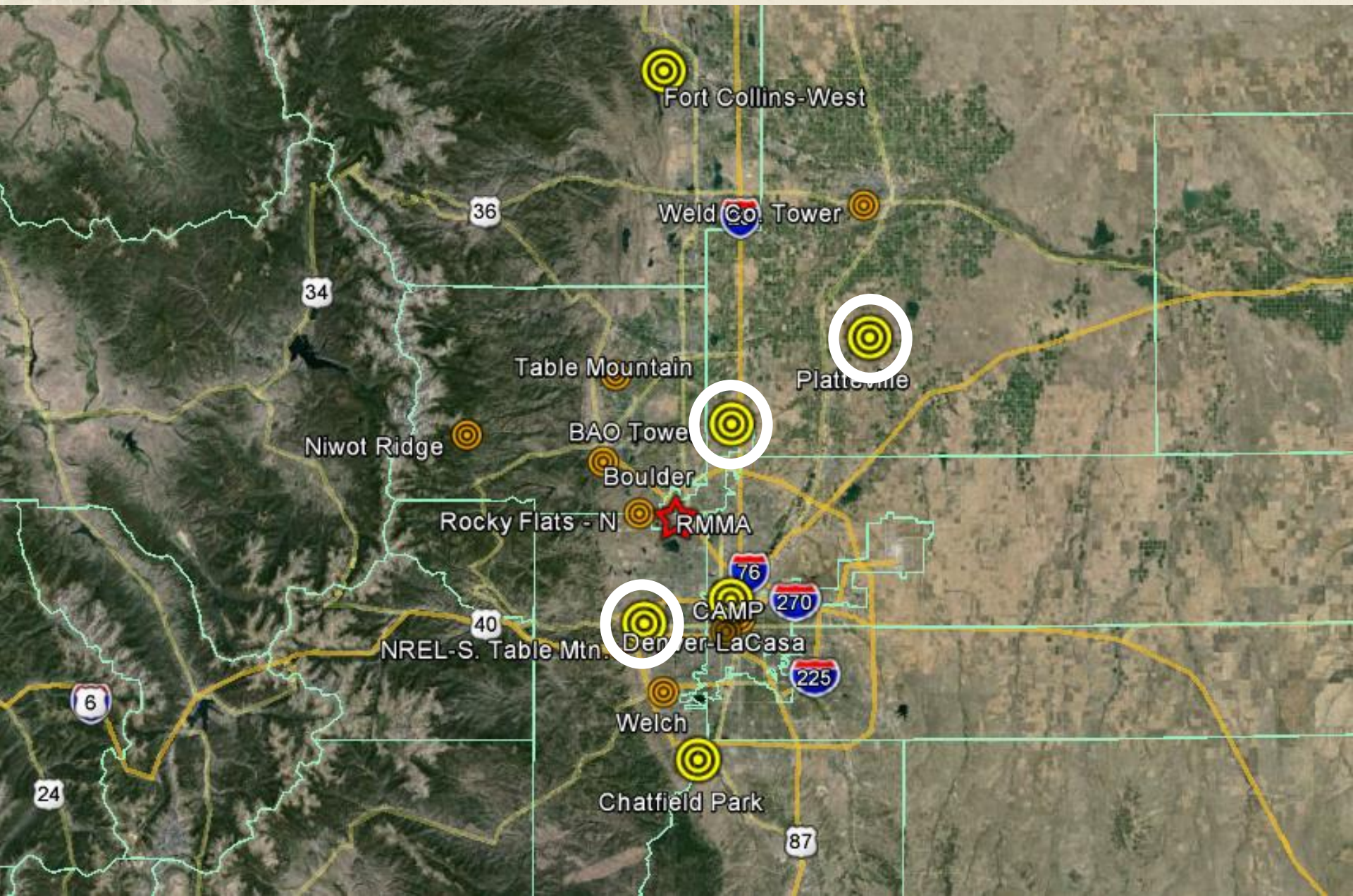
Badging: Will need to badge at WFF (upload and download), NCAR will badge for RAF access, information will be requested prior to deployment

Shipping Documents: Please have shipping documents completed and emailed to Luci Crittenden before 24 June. Items will be picked up from both LaRC and WFF.



Name	Spiral	Overflight	Pandora	EPA NO2	Missed Approach	Lidars	Balloons	Comment
BAO Tower	X		2			NOAA TOPAZ and HRDL, UW HSRL		CSU, 3 mobile hookups (NEMA 14-50), small sensors on tower
Chatfield Park	X		1	X				
Denver-LaCasa Ncore	X		2	X				
Fort Collins-West	X		1	X	500 feet	TOLNet O3		
NREL-S. Table Mtn.	X		2	X		MPL, TOLNet O3, Leosphere Windcube	Tethersonde	Millersville also brings sodar, flux tower, nephelometer; Pandoras by EPA here, UMBC trailer, EPA ceilometer, port-a-pot
Platteville	X		1	X			Ozonesondes	NATIVE, NOAA Radiation, 3 mobile hookups (NEMA 14-50), Pandora by NATIVE here; Extra trailer, shed (sondes), port-a-pot
Boulder		X	1					Pandora already at this location
CAMP		X						small sensors either along street canyon or on building?
I-25 Denver			1	X				near-road NO2 monitor; EPA for sure here; AQMesh
Niwot Ridge			1					exact location TBD - prefer tundra location
Rocky Flats - N		X	1	?				
Table Mountain		X	1					possible ozone monitor
Welch		X	1					
Weld Co. Tower		X	1	?				remote sensors on county building
Greeley-Weld Co. Airport					X			Missed approach along BL run
Parkland Airport					500 feet			Missed approach with BAO spiral

Early installation planned for Aeronet (April) and Pandora (May). Groups are working directly with Gordon Pierce at CDPHE.



Main POC: Tom Ayers

Gate →

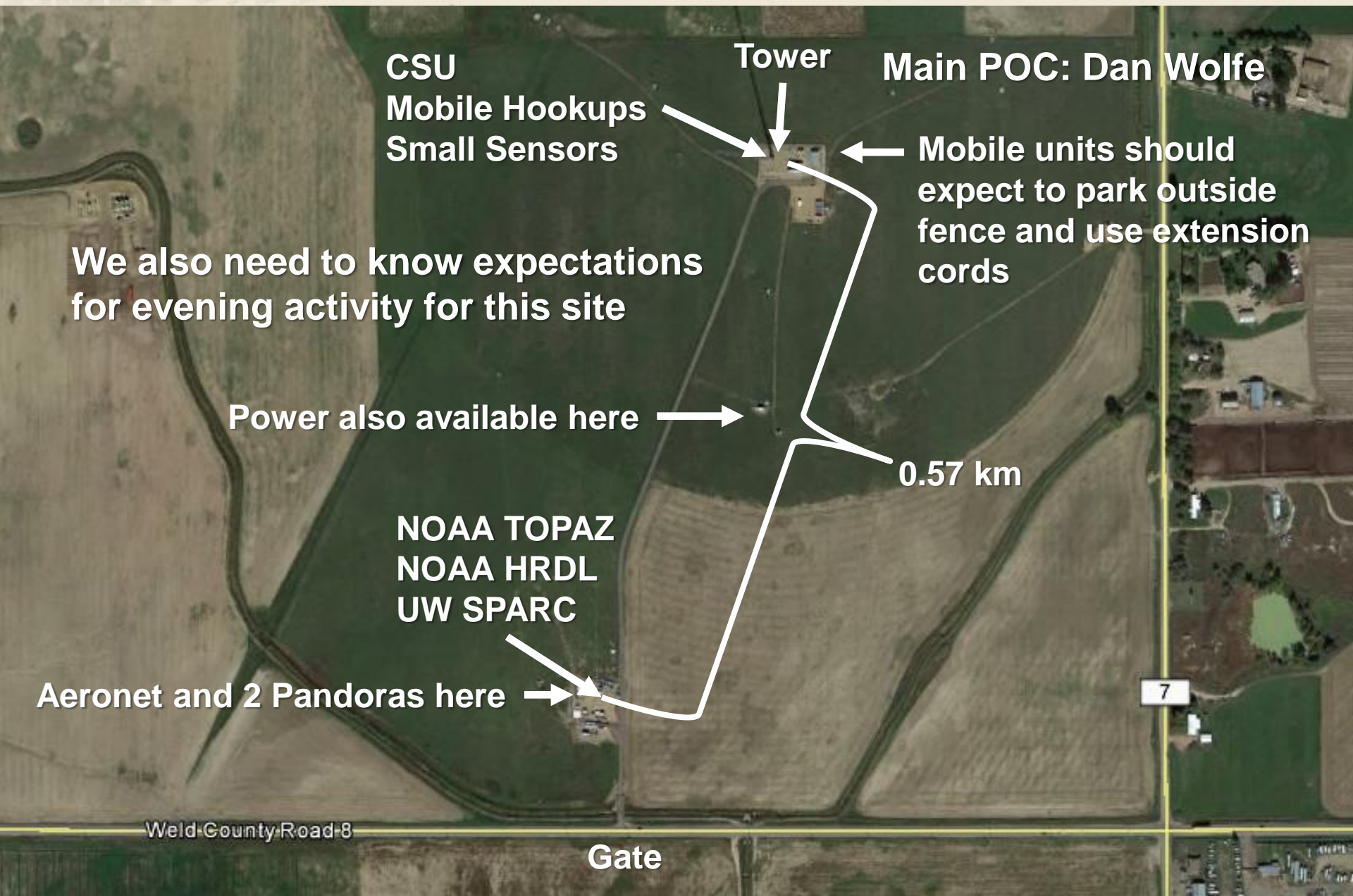
While we expect daily activity at this site, please let us know how much evening activity groups expect to have

Best locations for power access being discussed

NOAA may have a mobile mini trailer available. If not, they can still provide a window inlet for us to use with PTR-MS

Rooftop placement of Aeronet and Pandora is possible, but only by tall ladder access

Estimating cost to HEPA-vac the building to enable access for sonde activity and power access



CSU
Mobile Hookups
Small Sensors

Tower

Main POC: Dan Wolfe

Mobile units should
expect to park outside
fence and use extension
cords

We also need to know expectations
for evening activity for this site

Power also available here

0.57 km

NOAA TOPAZ
NOAA HRDL
UW SPARC

Aeronet and 2 Pandoras here

Weld County Road-8

Gate

7

NREL-Golden Site Update

(this plan will not work for NREL due to nearby radiometer calibration activity)

Others expected at this site:

TOLNet O3

UMBC trailer and Leosphere Windcube

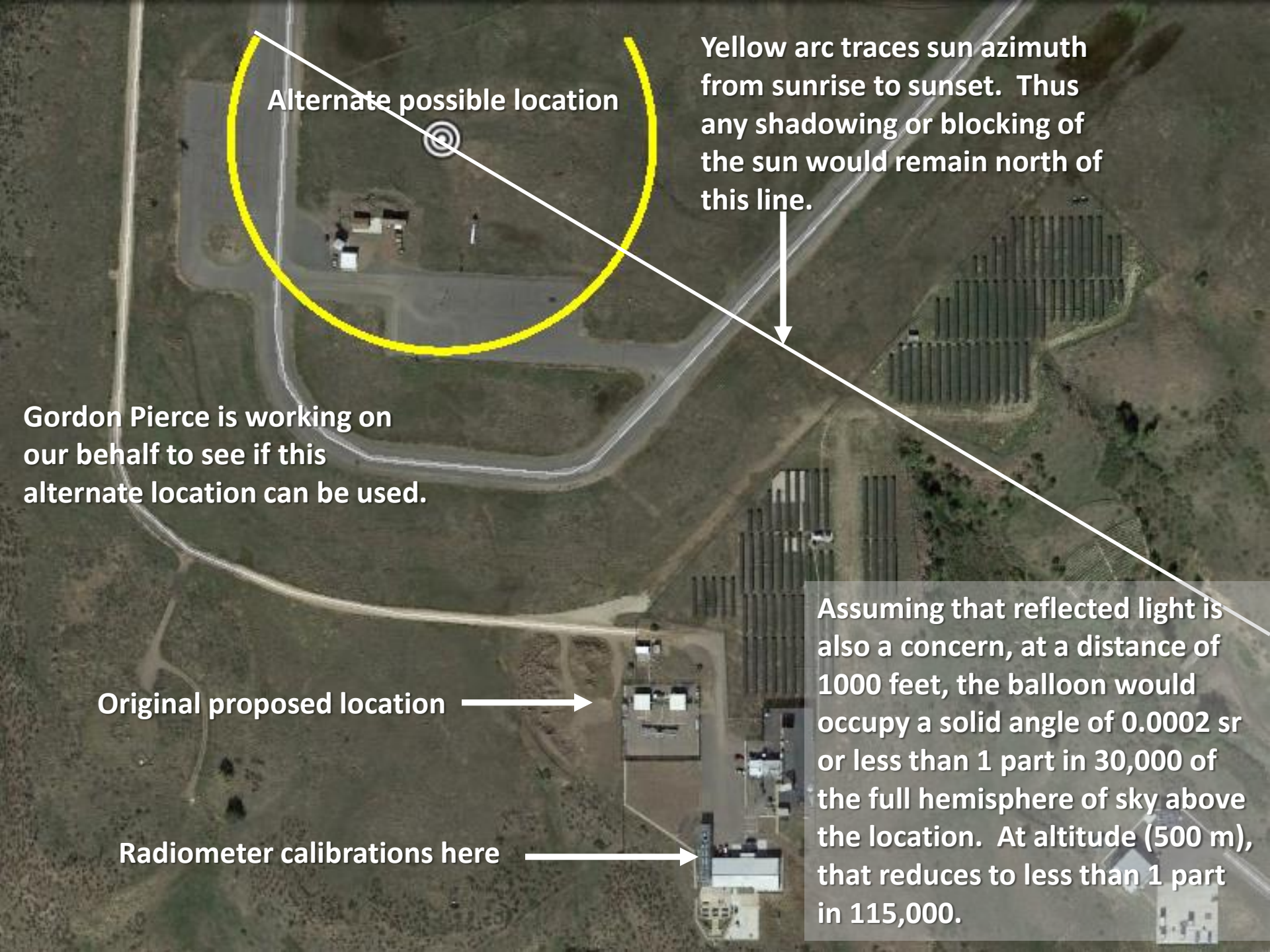
EPA (in CDPHE shelter)



Radiometer calibrations

© 2013 Google

Google earth



Alternate possible location

Yellow arc traces sun azimuth from sunrise to sunset. Thus any shadowing or blocking of the sun would remain north of this line.

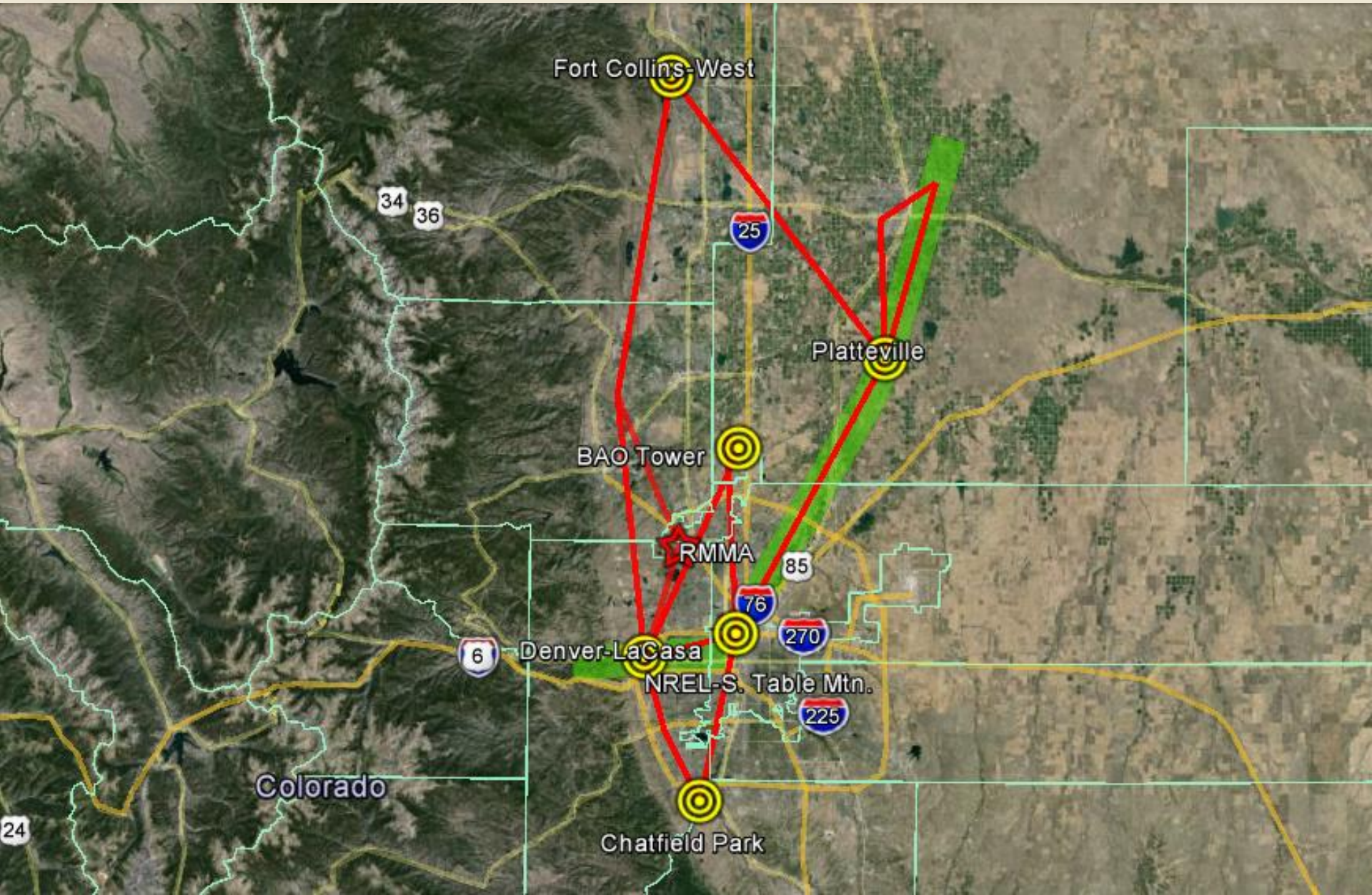
Gordon Pierce is working on our behalf to see if this alternate location can be used.

Original proposed location →

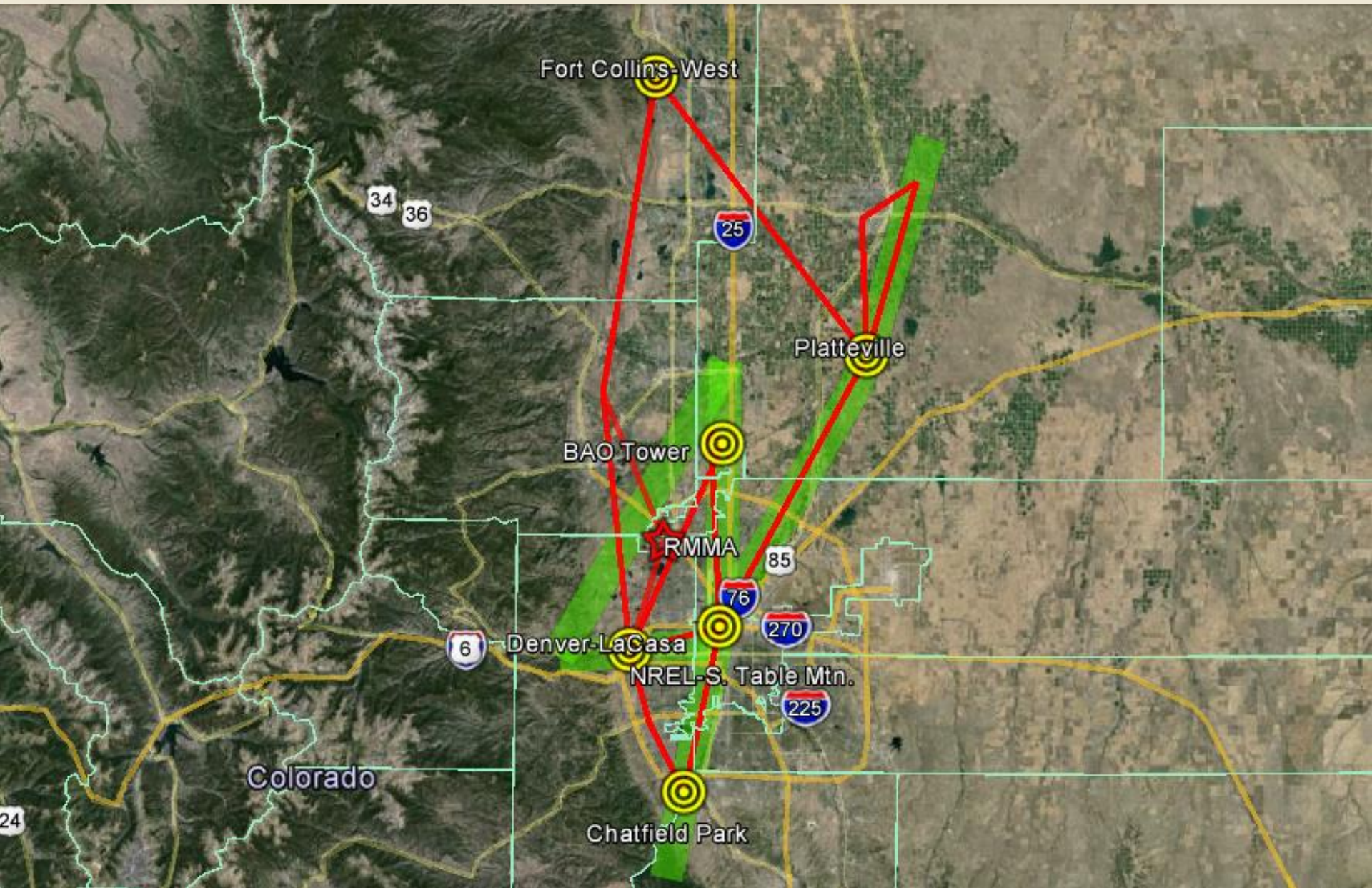
Radiometer calibrations here →

Assuming that reflected light is also a concern, at a distance of 1000 feet, the balloon would occupy a solid angle of 0.0002 sr or less than 1 part in 30,000 of the full hemisphere of sky above the location. At altitude (500 m), that reduces to less than 1 part in 115,000.

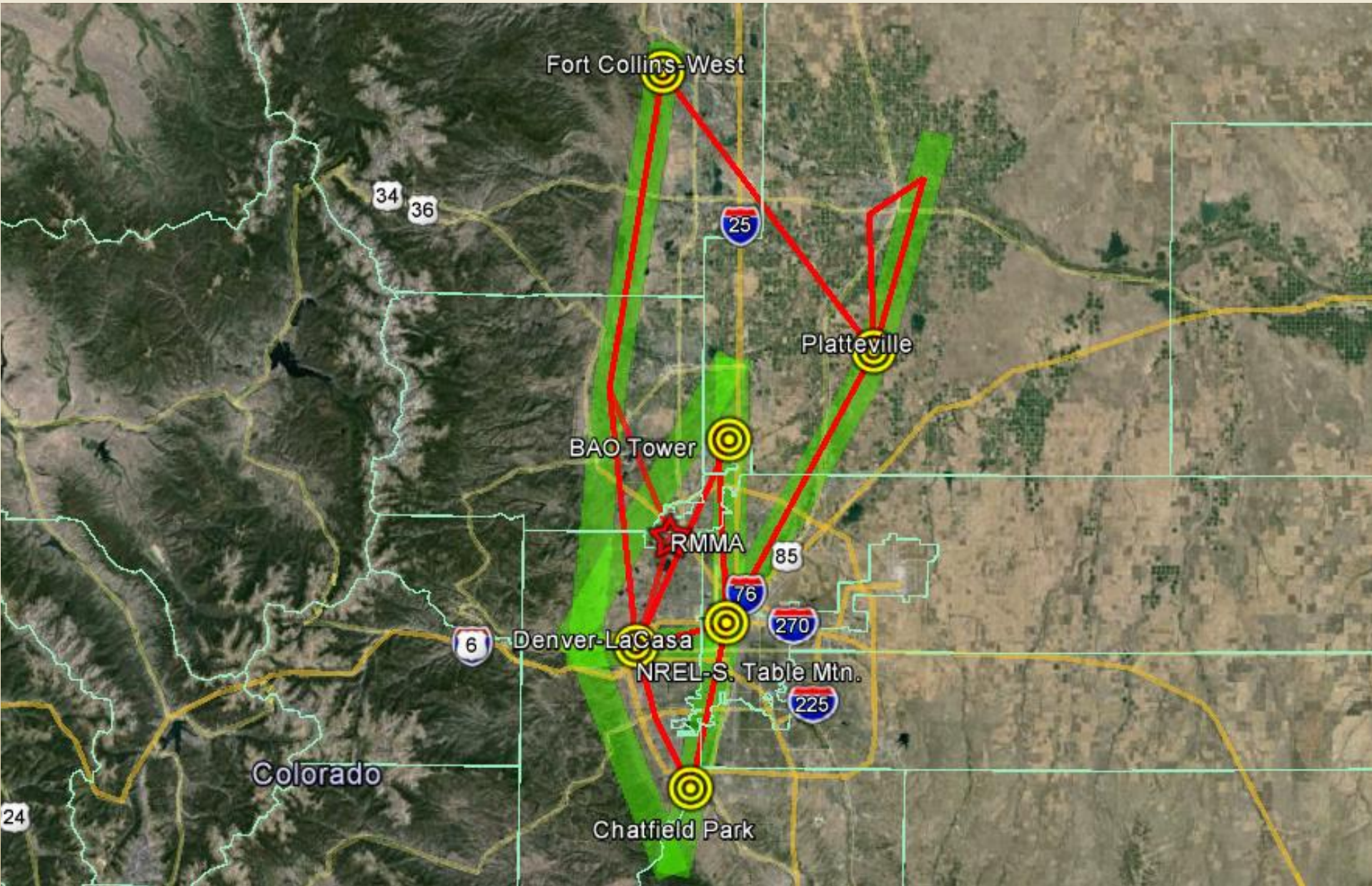
Draft King Air Flight Plan (green swath represents ACAM)



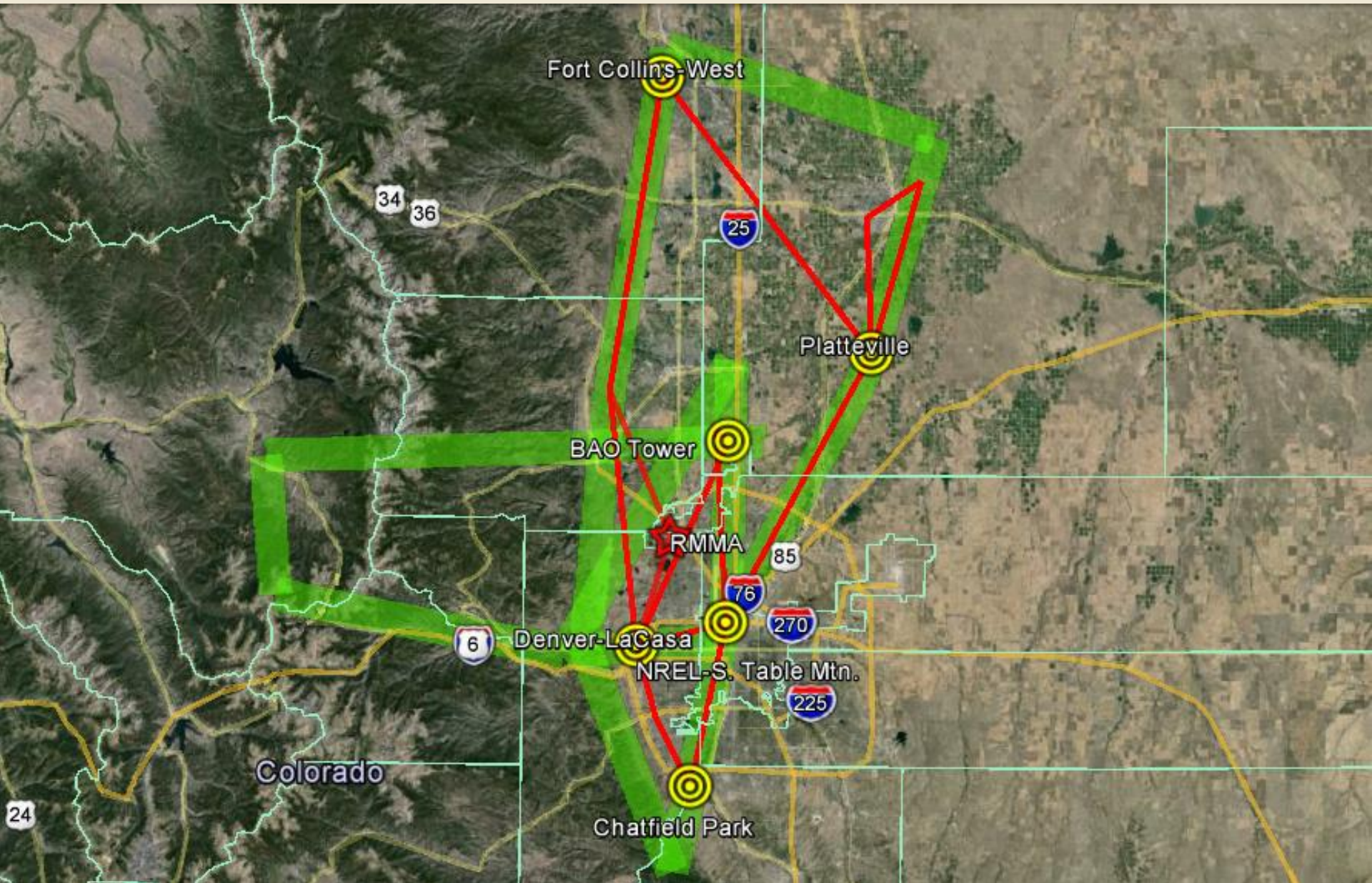
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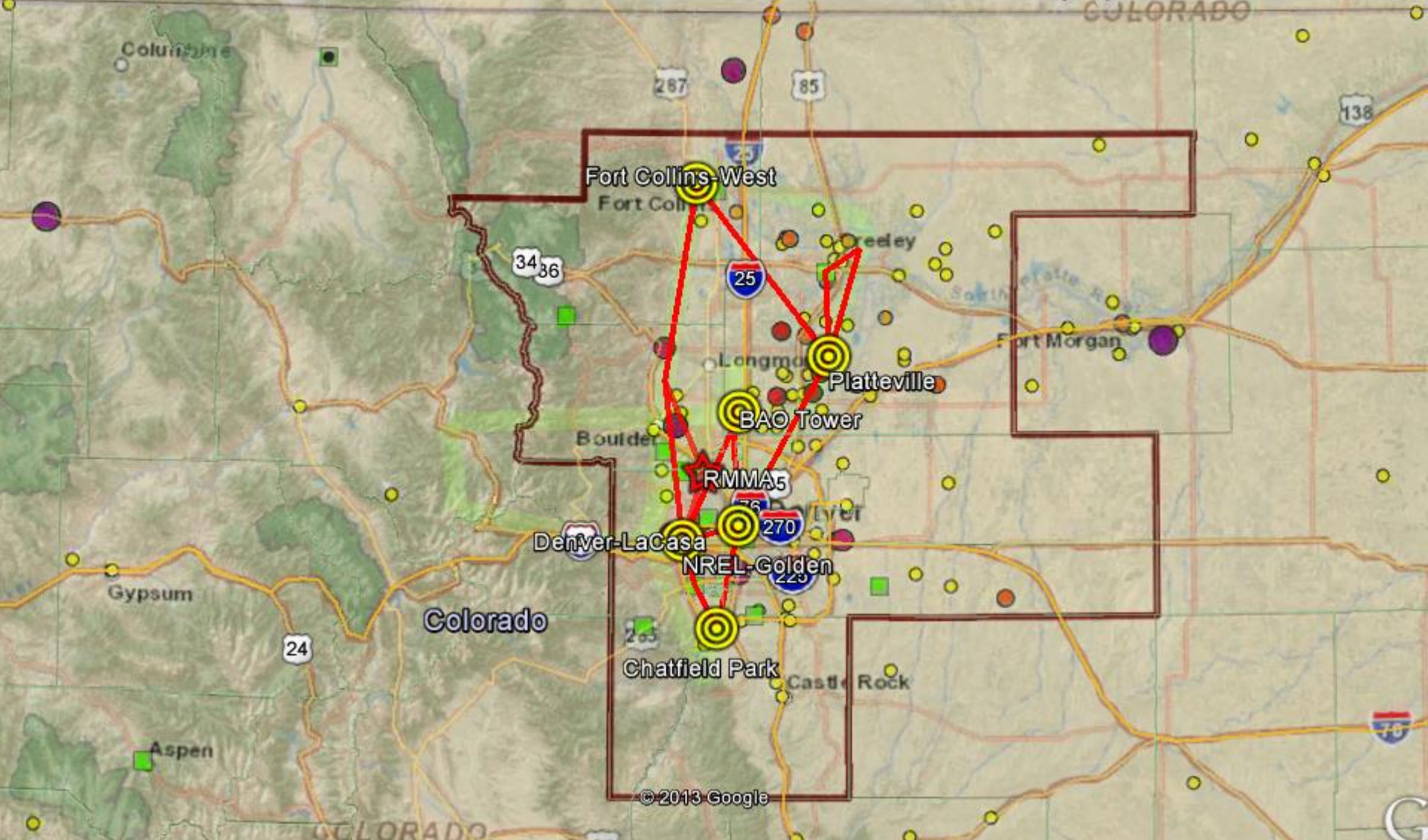


Draft King Air Flight Plan (green swath represents ACAM)



Emissions and OMI overlays from Patrick Reddy (kmz will be provided)

2014 APEN Reported NO_x Point Source Emissions Map (with O₃ & NO_x M



During previous AGU meetings we have had a great distribution of talks across sessions. We don't want to end that, but it might be nice to create a few more focused sessions where our material would find a home and encourage broader contributions from the community.

Two sessions have been proposed: not surprisingly, they focus on ozone and aerosols, but they are defined in a way that encourages a strong response from more than just DISCOVER-AQ

Deadline for session proposals: 16 April

Would be ideal to have 4 conveners for each session with 2 from DISCOVER-AQ

Regional and urban scale variability of ozone in the mixed layer and lower free troposphere

Such a session would incorporate:

- 1) DISCOVER-AQ aircraft and balloon sonde data
- 2) long-term balloon sonde measurements
- 3) modeling of urban ozone variability
- 4) surface monitor data records
- 5) determination of background ozone by a variety of methods
- 6) lower free troposphere/mixed layer air exchange (venting and entrainment) processes and their influences on ozone pollution
- 7) global cities with measurements or modeling activities



Proposal #2

Luke Ziemba and Andreas Beyersdorf



Assessing Aerosol Vertical Distribution Impacts on Air Quality and Radiative Forcing: Insight from In Situ Measurements, Remote Sensing and Modeling

Draft abstract:

Knowledge of aerosol vertical distributions is fundamental to understanding ground-level air quality, radiative transfer, and atmospheric evolution. Predicting surface aerosol loadings and climate forcing from satellite measurements is essential to guiding policy and is significantly affected by horizontal- and vertical-scale variability. Evolving intensive properties (optical, microphysical, chemical, and hygroscopic), changes in relative humidity and mixed-layer height, and the presence of lofted layers detached from surface conditions currently limit quantitative retrieval of ground-level $\text{PM}_{2.5}$. A number of recent campaigns integrating ground-, airborne-, and satellite-based measurements provided the necessary observations towards evaluating aerosol spatial and vertical distributions for a variety of remote and urban atmospheres. Abstracts are invited which address this topic through collaborative measurement/modeling efforts specifically targeting analysis of mixed biogenic/anthropogenic regions, long-term ground-level and satellite aerosol monitoring, aerosol long-range transport, and assessment of model grid-level variability for important aerosol properties



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for Aerosol Research

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Air Quality and Climate in the Southeast US: Insights from Recent Measurement Campaigns

Co-chairs: Ann Marie Carleton, Rutgers University, New Brunswick, NJ
Robert Griffin, Rice University, Houston, TX

Though widely acknowledged to occur, the extent to which emissions from human activity alter the fate of biogenic emissions to form radical species, ozone and particulate matter, including optically active and cloud-forming particles, is poorly understood. Comprehensive

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Air Quality and Climate in the Southeast US: Insights from Recent Measurement Campaigns

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Though widely acknowledged to occur, the extent to which emissions from human activity alter the fate of biogenic emissions to form radical species, ozone and particulate matter, including optically active and cloud-forming particles, is poorly understood. Comprehensive investigations among 100s of scientists converged on the Southeastern U.S. during the summers of 2012 and 2013 to address these critical knowledge gaps. Coordinated studies in the Southeast U.S. during the 1990s redefined air quality management. In the past 20+ years since, our understanding of atmospheric chemistry has vastly improved largely due to improved temporal resolution and an expanded spectrum of measureable compounds through state-of-art instrumentation. Experimental results from DC3 (Deep Convective Clouds and Chemistry), DISCOVER-AQ, the Southeast Atmosphere Study (SAS), and SEAC4RS (Studies of Emissions and Atmospheric Composition, Clouds and Climate Coupling by Regional Surveys) have the potential to produce substantial leaps in our understanding. This symposium solicits contributions presenting results and insights obtained from these campaigns.

We will be submitting an overview presentation for the Houston campaign.
Does anyone else have plans to share DISCOVER-AQ work at this meeting?



Data Archive Updates



Andy Weinheimer's final data for Houston is now in the archive

Calculated column densities for the California data set and will be placed under the "Analysis" tab (gridded profiles soon to follow).



Future Telecons



3-4 April (Webex of FRAPPE meeting)

24 April

8 May

22 May

5 June

9 June – Integration begins and telecons will become weekly until the deployment begins